

CLAIMS

1. A display device comprising (i) a pair of substrates, at least one of which is transparent, (ii) a medium provided between the substrates, and (iii) a display element including a first electrode and a second electrode for applying an electric field to the medium so as to carry out a display, the first electrode and the second electrode being connected to separate switching elements.

2. The display device as set forth in claim 1, wherein the display device includes a plurality of the display elements, each of which includes a first signal line and a second signal line, and the first electrode and the second electrode being connected to separate signal lines via separate switching elements.

3. The display device as set forth in claim 1, wherein the display device includes (i) a plurality of the display elements; (ii) a plurality of signal lines corresponding to the display elements; and (iii) a common counter electrode line to be shared by all of the display elements, the first electrode is connected to the signal line via a switching element, and the second electrode is connected to the common counter electrode line via a switching element other than the switching element to

which the first electrode is connected.

4. The display device as set forth in claim 1, wherein a refractive index of the medium changes in proportion to square of the electric field.

5. The display device as set forth in claim 1, wherein the medium contains a liquid crystal material.

6. The display device as set forth in claim 1, wherein the medium contains polar molecules.

7. The display device as set forth in claim 1, wherein a degree of optical anisotropy in the medium changes in response to application of electric field.

8. The display device as set forth in claim 7, wherein the medium exhibits optical isotropy in the absence of the electric field, and the medium exhibits optical anisotropy in the presence of the electric field.

9. The display device as set forth in claim 7, wherein the medium exhibits the optical anisotropy in the absence of the electric field, and the medium exhibits optical isotropy in the presence of the electric field.

10. The display device as set forth in claim 7, wherein the medium is constituted of molecules having an orderly structure smaller than an optical wavelength either in the presence or in the absence of electric field, the orderly structure being changeable in response to application of electric field.

11. The display device as set forth in claim 7, wherein the medium has an orderly structure exhibiting a cubic symmetry.

12. The display device as set forth in claim 7, wherein the medium is constituted of molecules that exhibit a cubic phase or a smectic D phase.

13. The display device as set forth in claim 7, wherein the medium is made of a liquid crystal micro emulsion.

14. The display device as set forth in claim 7, wherein the medium is made of a lyotropic liquid crystal that exhibits a micelle phase, a reverse micelle phase, a sponge phase or a cubic phase.

15. The display device as set forth in claim 7, wherein the medium is a liquid crystal fine particle dispersed system that exhibits a micelle phase, a reverse micelle phase, a sponge phase or a cubic phase.

16. The display device as set forth in claim 7, wherein the medium is made of a dendrimer.

17. The display device as set forth in claim 7, wherein the medium is constituted of molecules that exhibit a cholesteric blue phase.

18. The display device as set forth in claim 7, wherein the medium is constituted of molecules that exhibit a smectic blue phase.

19. The display device as set forth in claim 7, wherein a selective reflection wavelength band or a helical pitch of the medium is not more than 400 nm.

20. The display device as set forth in claim 1, further comprising an auxiliary capacitor connected in parallel to the first and second electrodes.

21. The display device as set forth in claim 2,

further comprising:

a first auxiliary capacitor in which one electrode is connected to the first electrode;

a second auxiliary capacitor in which one electrode is connected to the second electrode; and

an auxiliary capacitor wire connected to the other electrode of the first auxiliary capacitor and the other electrode of the second auxiliary capacitor.

22. The display device as set forth in claim 1, wherein the first and second electrodes generate an electric field along a direction parallel to surfaces of the substrates.

23. The display device as set forth in claim 3, wherein the first and second electrodes are formed on separate substrates.